

# COAL

UNIVERSITY MICROFILMS  
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ANN ARBOR, MICH

# MINING

January, 1960

Volume 37, No. 1

rugged equipment for tough jobs...



Lima 1250 at River Hill Coal Co., Kylertown

A-1025A

# Highway



**HIGHWAY EQUIPMENT COMPANY**

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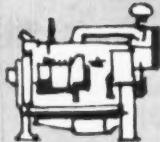
# How Beckwith Machinery Company



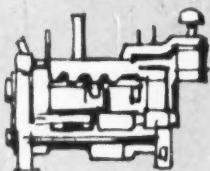
**CATERPILLAR DEALER  
ENGINE SPECIALISTS**

## Can Save You Money

**WE OFFER A WIDE RANGE OF ECONOMICAL POWER . . .**

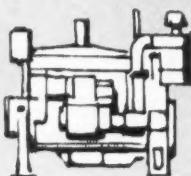
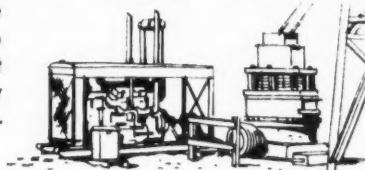


The Caterpillar diesel line is the most complete in the industry. Engines range in horsepower up to 700. Our Electric Sets are rated up to 375 KW. In addition, Beckwith offers you a Caterpillar "certification" of power document which gives written proof of dynamometer tests on your engine or electric set. You know exactly what power your particular engine produces.

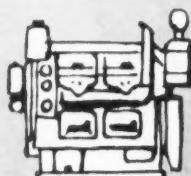


**BECKWITH SPECIALISTS CAN ADVISE ON PROPER APPLICATION . . .**

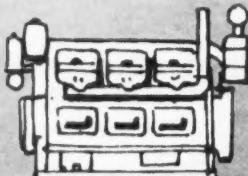
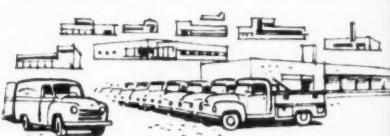
Possibly several different engine models or sizes could be used to drive a particular piece of equipment. However, there is one "best" engine which will match power to load, give best production, keep maintenance costs lowest. Our experience with correct attachments and special arrangements can mean money in your pocket. We will see that you have adequate power to achieve full use of your equipment without excessive fuel consumption, unnecessary maintenance of powered equipment or premature failure of drive components.



**PARTS AND SERVICE FACILITIES BACK UP YOUR INSTALLATION . . .**



Beckwith maintains six strategic locations, offering superior parts and service facilities in Western Pennsylvania and the Northern area of West Virginia. In addition we can call upon 16 factory parts depots for the occasional items which may temporarily not be in our vast parts stocks. Our servicemen are available around the clock and are equipped with speedy trucks and specialized tools to keep your equipment running with a minimum of down-time.



**If you have a power problem, call your Beckwith CDES (Caterpillar Dealer Engine Specialist) and find the way to new profits through the proper application of Caterpillar diesel power. We are at your service . . . call us today.**

\*Both CATERPILLAR and CAT are registered trade marks of The Caterpillar Tractor Co.

**engine  
power**  
BY CATERPILLAR

**BECKWITH  
MACHINERY CO.**

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**LOWEST COST PER TON WITH  
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**LIVE POWER • RAPID TRAVERSE  
• EASY COUPLING PINS • SAFETY  
AUGER GUIDE SIDEWAYS—FORWARD  
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**COAL RECOVERY "Walks" from hole to hole to auger high-quality coal**

An Ohio miner removes 550 tons of coal in each 8-hour working day with this Model 14 36-42x12' McCarthy drill, operated by two men. He drills 42" dia. holes 144' deep. Auxiliary conveyor eliminates spillage at hole. It operates on either side of drill for working blind cut. Twelve different models of McCarthy Coal Recovery Drills mine low-cost "bonus coal".

*Manufacturers of Drilling Equipment Since 1901*

**SALEM**

**THE SALEM TOOL COMPANY**  
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**VERTICAL  
MODEL 106-24**

**World's Fastest Heavy-Duty  
Vertical Auger Drill**

Bores faster, deeper, larger dia. holes than any other auger drill. New gear reduction unit slows auger rotation for operation in hard rock formations. Drills 8" and 9" dia. holes readily in shale and sandstone formations, drills larger dia. holes up to 24" dia. in softer formations.

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**Lowest Drilling Costs per  
Foot, Self-Propelled or  
Truck-Mounted**

Bores up to 12" dia. holes to 150' depth faster, cheaper than any other horizontal drill. Requires less working space, saves many man-hours... operates easily in tight, hard-to-reach locations.



**FINGER-TIP CONTROL      HYDRAULIC FEED**



**Gives Desired  
Rotating Speed  
of Auger**



**Provides Any Speed  
up to 6 Feet per  
Minute Horizontal  
Feed of Drill**

# Are Your PROFITS Keeping Pace



"For over a year and a half, we worked our D9 20 hours a day, six and sometimes seven days a week. It has proved to be economical and exceptionally productive. We have been completely satisfied with our D9. The availability of parts and Beckwith service keep downtime to a minimum," says Nick J. Biviano, Vice-President of Edmunds Contracting & Supply Co., Frenchville, Pa.

# with Your PRODUCTION?

## If not... switch to the EFFICIENTLY OPERATING, BIG PRODUCING CAT D9

All big machines aren't necessarily big profit-makers...but Caterpillar diesel tractors are!

Just because a tractor is large, rated as powerful and moves a great volume of dirt at a given time doesn't always mean that it is doing so profitably. Caterpillar diesel tractors, on the other hand, have consistently backed high production figures with low owning and operating costs...keeping profits up.

The owner of a Caterpillar unit, such as the Cat D9 or D8, benefits with lower cost-per-cubic yard through low maintenance costs, minimum downtime and reasonable operating expenses. And when there is a great deal of overburden to be removed, coal to be stripped, dirt to backfill at smallest cost...the logical selection is the massive, job proved Cat D9.

Equipped with the Cat 7-blade, the 42-ton D9 has cut and pushed loads measured by engineer's cross-section in excess of eight solid yards on the level and fourteen and a half yards on a 20 per cent downhill push. Over 350 of these rugged machines are productively engaged in coal stripping throughout Pennsylvania, West Virginia and Ohio.



If you want to keep your costs down, profits high, and boost your coal output, let us tell you more about the high production, efficiently operating D9. Cost records on this model are available on request from Beckwith. Remember too, that we will arrange a demonstration, without obligation, if you wish. Check your nearest Beckwith location for more information on moving tremendous yardage...rapidly and cheaply.

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# COAL KELLING

Vol. XXXVII

January, 1960

No. 1

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## TOOLS from MARS

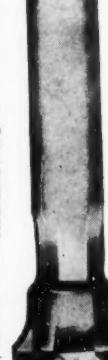
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5/8" Hex Steel  
5/8" x 3 1/2"  
Collared Shank

5/8" Hex Steel  
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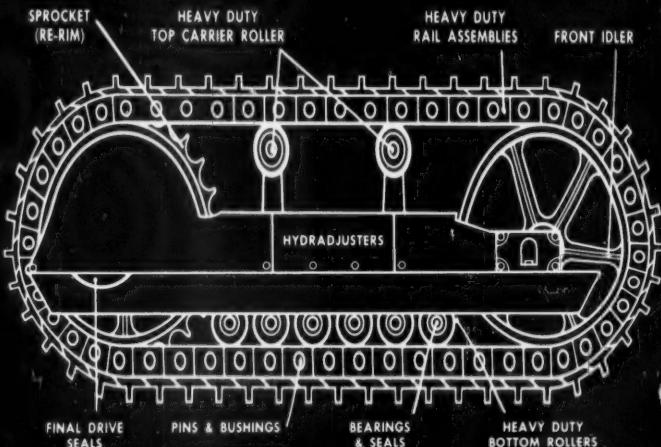
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In a most modern and well equipped rebuilding shop

### REBUILD TO STANDARD

TRACK & GROUSERS • FRONT IDLERS  
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Allis-Chalmers HD-21 clears way for shovel at Shawville Coal Company, Inc., Shawville, Pa.

## Shawville Coal Company looks to the future with equipment from *Highway*



Lima 2400 strips overburden for Shawville Coal.



*Highway*

**HIGHWAY EQUIPMENT COMPANY**

6465 Hamilton Ave. • Pittsburgh 6, Pa.

40 Hoover Ave. • Du Bois, Pa.

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Allis-Chalmers • Master • Lima • Thor • Heltzel • Gar Wood

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Shawville Coal Company, Inc., Shawville, knows that its future success depends on using the most modern equipment. So, like other progressive mine operators, it depends on equipment sold, serviced and guaranteed by Highway.

If you, too, are looking to the future, call your Highway representative today.

A-1028A



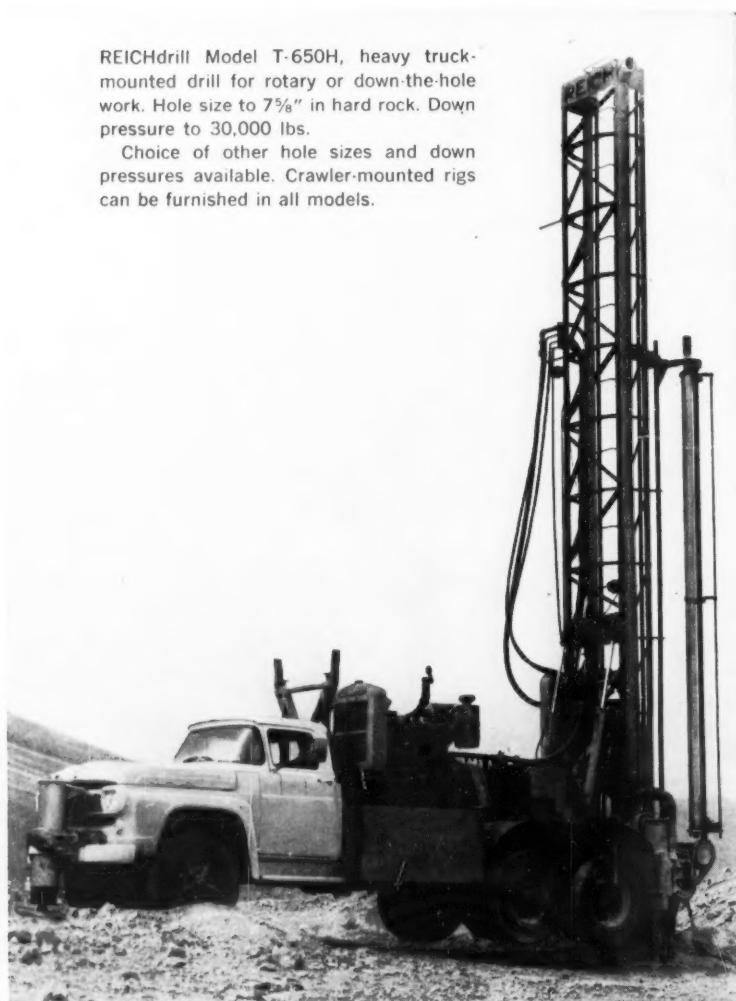
Lima 44 loads coal.

WHEN YOU RUN A **REICHDRILL**  
YOU'VE GOT A RIG THAT IS **ALL-HYDRAULIC**  
AND FEATURES **TOP-DRIVE**

Drillers get "more hole per hour with a REICHdrill" because . . .

REICHdrill Model T-650H, heavy truck-mounted drill for rotary or down-the-hole work. Hole size to 7 $\frac{1}{2}$ " in hard rock. Down pressure to 30,000 lbs.

Choice of other hole sizes and down pressures available. Crawler-mounted rigs can be furnished in all models.



**ALL-HYDRAULIC  
TOP-DRIVE MEANS:**

1. **Infinitely variable speed** of drill rotation from zero rpm to maximum rated speed of model—permits the right rotational speed for every formation.
2. **Safety torque release** which practically eliminates all chance of drill breakage . . . protects all drive components.
3. **Direct-drive to drill stem** eliminating power loss . . . no complicated transmission to wear or maintain . . . no rotary table.
4. **In and out of the hole faster** because no kelly bar is required.
5. **Operator can drill up as well as down** should bit become stuck.

And the REICHdrill offers these outstanding advantages: Dependable heavy duty CP Compressors supply plenty of air to suit demand . . . Fast-acting, ram-type hydraulic levelling jacks . . . CP "Air-Blast" Bits give you extra footage in the toughest formations . . . Angle drilling—operator simply sets correct angle and drills.

**Prove it on YOUR OWN WORK.** We're GLAD to demonstrate! If the Reich doesn't out-drill any other rig you may have — pound for pound of weight, and dollar for dollar of investment, we won't expect you to be interested. Write, wire or phone —

**FRANK SWABB EQUIPMENT CO.**

Hazleton National Bank Bldg., Hazleton, Pa., Gladstone 5-3658

Find out the Extra Profit you'll make with a REICHdrill

## Layout Plan For Eccentric Reducer

- On first appearance an eccentric reducer requires quite an involved layout pattern. However, a little study will prove that a bit of simplification can be achieved.

The diagram illustrates a short cut method for laying out the pattern for an eccentric reducer of any

moderate pipe size. It is essential that one allows the proper amount on the larger diameter pipe indicated in the layout pattern. The initial step in this method is the location of the several points and the subsequent drawing in of the cut lines. These are: E, B, A, G, C, D and P; plus the remaining por-

tion of the pipe which we allowed in step three.

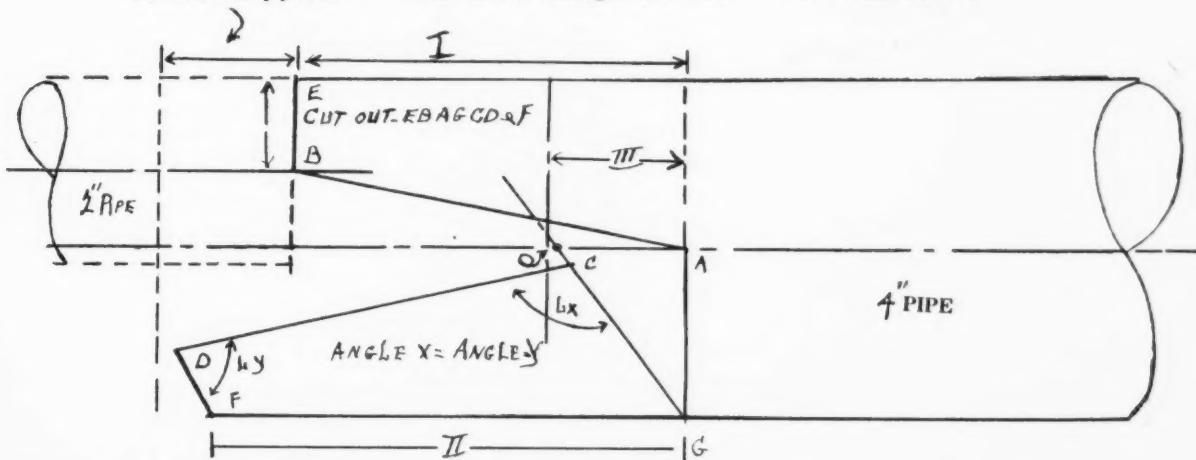
The oxy-acetylene large flame tip is used to heat the pipe uniformly for forming into shape with the hammer. A welding tip then completes the job for a professional appearing installation.

## A Layout Pattern For A 4" x 2" Full Size Eccentric Reducer

AB CD  
Spot D — Draw CD  
BE FD  
Permit III on pipe end

Spot B  
Connect A & B  
Spot point O  
Strike line GC through GC GA

- I—Difference in OD x 2
- II—Difference in OD x 22359
- III—Large OD x 25
- IV—Small OD x 50



## Auxiliary Water Tank For Drills

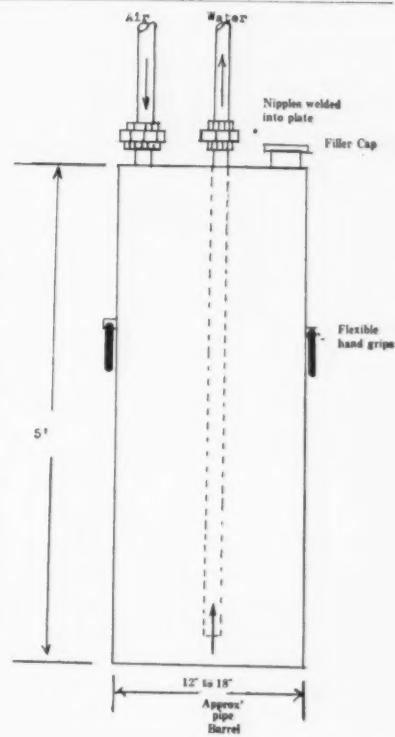
- When developing adits in rock it is imperative that water-liner type drills be used to both reduce the occupational dust hazard and increase drilling speed through elimination of the cuttings from the bore hole.

It is necessary to have the water under slightly less pressure than that of the air used in the drills. Where this water is not available through ordinary means it can be provided by the installation of an auxiliary water tank that is refilled from any low pressure source as the needs prescribes. The outfit

consists of a section of large diameter pipe such as a 12" or 18" diameter size which should be approximately 5-ft. tall.

The bottom is closed by welding in a plate section and the top plate is provided with three openings in which suitable nipples are welded. A 4" capped nipple serves as a means for filling, and one each of two 1" nipples serve respectively for admitting air pressure and discharging water to the drills.

Folding hand grips are welded on the tank exterior for ready moving as the work proceeds.





● The combination of big capacity, high efficiency and extreme ruggedness has been engineered into the new LIMA Types 1800 and 1800-SC introduced by the Lima Works (Lima, Ohio), Construction Equipment Division, Baldwin-Lima-Hamilton Corporation.

As a standard shovel the Type 1800 is equipped with a 35-ft. boom, 26-ft. 10-in. dipper handle and five cubic yard dipper; as a coal loading shovel it is equipped with a seven or eight cubic yard dipper; as a crane it has a lifting capacity of 112 tons, dragline capacity is variable.

The Type 1800SC is a 140 ton capacity crane with ground gripping stability. Extra long crane booms with jibs are available for high lift work. Both 1800 and 1800SC are air operated rigs and both are in the big time producer class yet their design permits knock down for job to job transportation.

The truck base is available in two widths — standard width for the Type 1800 and extra wide for the Type 1800-SC. Either base is of one-piece cast steel construction bored and bushed for the two through axles and horizontal propeller shaft.

The rotating base is of simple, rugged, clean cut design free of excess weight. It is a one-piece carbon steel casting having deep section with top machined to receive the fabricated steel machinery side frames.

Each side frame assembly, including belts, crawler chains and sprockets is removable as a unit. Counterweight segments are also removable and the backhitch-telescopic-type gantry can be folded to a height of 17-ft. 5-in. The main hoist clutches are the internal-expanding type, designed for heavy-duty service. They are extra large in diameter with wide face, air

operated and amply ventilated for cool operation.

Both the Types 1800 and 1800SC are available with diesel or electric power with torque converter drive. Bulletin No. 180 available by writing Baldwin-Lima-Hamilton Corporation Construction Equipment Division, Lima, Ohio, U. S. A.

● A complete reference manual of Velvetouch and Velvetouch Feramic replacement clutch plates, clutch facings, brake linings and matched facing sets for tractors, construction and mining equipment and industrial material-handling machinery, is announced by the S. K. Wellman Company, Bedford, Ohio.

The catalog presents various machinery makes in alphabetical order. These are classified according to serial number, original clutch make, clutch dimensions, drilling, quantity and type of rivets required. The correct Velvetouch part number for each unit is then listed.

The manufacturer advises that use of the catalog will simplify correct ordering of replacement parts.

Products of every major American machinery producer are included in the 104-page book, identified as Catalog No. 60-T. Among types of equipment listed are tractors, graders, hoists, motor patrols, industrial trucks, shovels, cranes, ditchers, loaders, logging machinery, mixers, locomotives, drills, rollers, finishers, industrial engines, trenchers, plows, off-highway trucks, sweepers, rail cars, pumps, pavers, tampers, crushers, road planer and winches.

In addition to Catalog 60-T listings, further application data is provided by a companion manual, No. 60-R. This is a cross-index of all Velvetouch and Velvetouch Feramic part numbers and manufacturers' numbers, as well as respective dimensional size information.

For catalog copies, write *The S. K. Wellman Company, Bedford, Ohio*. Ask for No. 60-T.



**one manufacturer . . . one dealer organization . . .**



**one source for your equipment,  
parts, service and financial needs!**



**your CATERPILLAR dealers**  
**standing by with these and many more services**

# Undivided Responsibility



*One manufacturer—one dealer organization—one source for your equipment, parts, service and financing needs:* standardization on Caterpillar equipment can bring you these extra money-saving values!

The one source for all these values is your Caterpillar Dealer. He's your right hand man—always ready to help you select the new or used equipment you need, arrange financing, conduct training schools for your servicemen and operators, provide genuine Cat parts and efficient service.

At your Caterpillar Dealer you will find the most complete line of *matched* equipment built by one manufacturer . . . sold and serviced by one dealer organization: Cat track-type Tractors, Wheel Tractors, Motor Graders and Traxcavators are *all* Cat-built—engines, transmissions, final drives, etc.

Your dealer also has the greatest *depth of line* offered by any organization. He has auxiliary equipment built to increase the versatility and productivity of Cat products. This includes Athey Trailers, Fleco Land Clearing Equipment, Hyster Winches and Hystaways, Preco Back Rippers and Automatic Blade Controls, and other well-known products manufactured by Balderson, Omaha, Rome, and Ulrich.

So why divide responsibility for your spread among several dealers? Why look further when you can standardize on the best and most complete line by any measure—all under one roof: at your Caterpillar Dealer!

## CATERPILLAR

Caterpillar, Cat and Traxcavator are Registered Trademarks of Caterpillar Tractor Co.



# FOR THE ENTIRE CATERPILLAR FAMILY BRINGS YOU MORE PRODUCTION, MORE PROFITS



## *Undivided Responsibility...*

helps operators produce more

Keep your equipment all in the Caterpillar family and profit many ways: operators and servicemen become familiar with one brand of machines. There's a similarity in operation, servicing and maintenance. And operators prefer Cat machines because they're the big producers—and everyone wants to ride a "winner." Result—he produces more—and makes you more money.

## *Undivided Responsibility...*

simplifies your parts program

Standardizing on Cat equipment reduces your parts inventories, since many parts are interchangeable. One dependable source—your Caterpillar Dealer—supplies all your parts needs. His parts stocks are based on machine population in his territory, double-checked by a modern inventory control system—so you can always depend on prompt service.



## *Undivided Responsibility...*

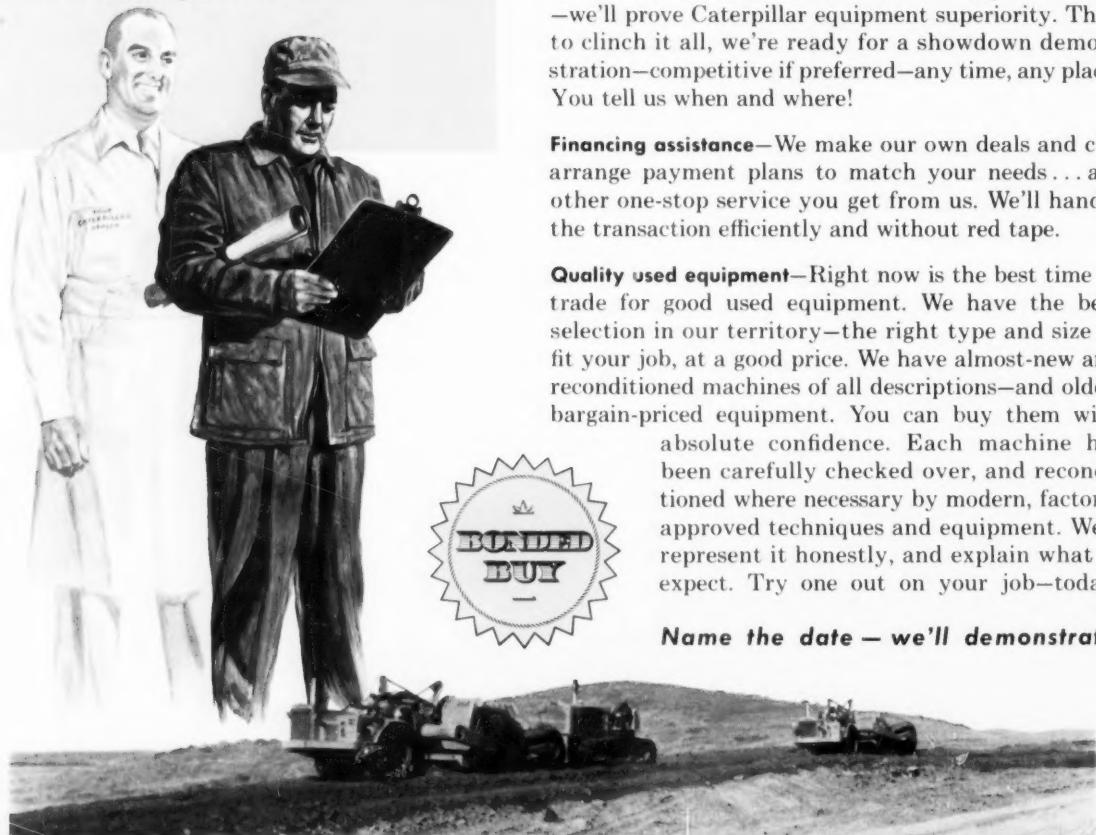
brings you the best in service

Only Caterpillar Dealers give authorized Caterpillar service. Servicemen are factory-trained to handle work quickly, correctly, and with your best interests in mind. They are equipped with complete service facilities: labor-saving tools, shops with modern equipment, and trucks completely outfitted for efficient, on-the-spot field service. What's more, Caterpillar Dealers conduct "Cat Care" training programs to help your servicemen become more efficient... to save... earn you more money.

turn the page for more tips on how undivided responsibility saves you money...



**we'll help you select the  
CATERPILLAR  
EQUIPMENT  
to match your needs**



**Experienced engineering service**—As your right hand man, we'll help you analyze your requirements and select the equipment that fits your job. The services of Cat earthmoving specialists are available to you, too.

**On-the-job proof**—By any measure you name—production, economy, long life, satisfied owners, specifications—we'll prove Caterpillar equipment superiority. Then to clinch it all, we're ready for a showdown demonstration—competitive if preferred—any time, any place. You tell us when and where!

**Financing assistance**—We make our own deals and can arrange payment plans to match your needs... another one-stop service you get from us. We'll handle the transaction efficiently and without red tape.

**Quality used equipment**—Right now is the best time to trade for good used equipment. We have the best selection in our territory—the right type and size to fit your job, at a good price. We have almost-new and reconditioned machines of all descriptions—and older, bargain-priced equipment. You can buy them with absolute confidence. Each machine has been carefully checked over, and reconditioned where necessary by modern, factory-approved techniques and equipment. We'll represent it honestly, and explain what to expect. Try one out on your job—today!

**Name the date — we'll demonstrate!**

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Route 219 North, Somerset, Pa.  
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Route 60 East, Belle, W. Va.  
4010 Emerson Ave., Route #2, Parkersburg, W. Va.

CM 9

**look to CATERPILLAR for leadership**



PAUL H. DAVEY, Sr., Chairman, Davey Compressor Co. He has just been granted a patent on a light metal vane for rotary compressors.

## New Development Offers Solution to Rotary Compressor Blade Problems

● Air compressors are essential equipment at virtually every deep and strip mine. Consequently, operators will be vitally interested in a new development claimed to hold promise of increased compressor operating efficiency and reduced service and repair expense.

Rotary portable compressors,

employing a plurality of vanes, reciprocating in radial slots in the rotor and engaging against an eccentric stator, were first introduced several years ago. They are now being offered by a number of leading manufacturers, and probably comprise the majority of new portable units being placed in mine

service today. Rotary design is also becoming widely accepted in the stationary compressor field.

As a general rule, operators have expressed satisfaction with their new rotary machines, particularly because of their light weight and operating economy. In fact, the principal problem has apparently

centered around necessity for frequent replacement of rotor blades. Made, in most cases, of plastic or composition material, these tend to break down and delaminate in time. In fact, some users, as a preventive service measure, schedule blade inspections at approximately 1,000 hour intervals and frequently replace them in 2-3,000 hours.

Therefore, the recent granting of a light metal vane patent to Paul H. Davey, Sr., board chairman of Davey Compressor Co., Kent, Ohio, has been viewed with considerable interest. This is particularly true because of the name applied to Mr. Davey's new blade — "Perma-Vane" which implies long, dependable life.

Also, Mr. Davey has a long background of accomplishments in the compressor field, many of which have resulted in the solution of major problems. It will be recalled that he pioneered portable air-cooled units in 1922, when water-cooling was the standard of the industry. Also, in the late 20s, he patented "lifetime" valves, still an important feature of modern piston-type machines. Another Davey innovation was the "Auto-Air" in which a truck-mounted compressor is powered directly from the truck engine through a power take-off in the driveshaft. "Auto-Airs" today are widely used by contractors and utilities. There are also a number of these units in the coal industry.

Basis for Mr. Davey's new Perma-Vane blades, which will be standard in 1960 on all Davey machines of 20 h.p. and larger, is the use of a special light metal alloy which readily transmits heat through its entire mass.

These alloy blades, after manufacture, are subjected to 2 special metal treatments.

The first treatment consists of the electrolytic application of a thin surface, said to be as hard and wear resistant as ruby. This surface is claimed to be permanently unaffected by ordinary wear and hot oil. Because the blade is of unitary structure, it is not subject to delamination.

After the hardening process,



Typical blade deterioration and delamination. When this happens, rotor and stator are seriously damaged.

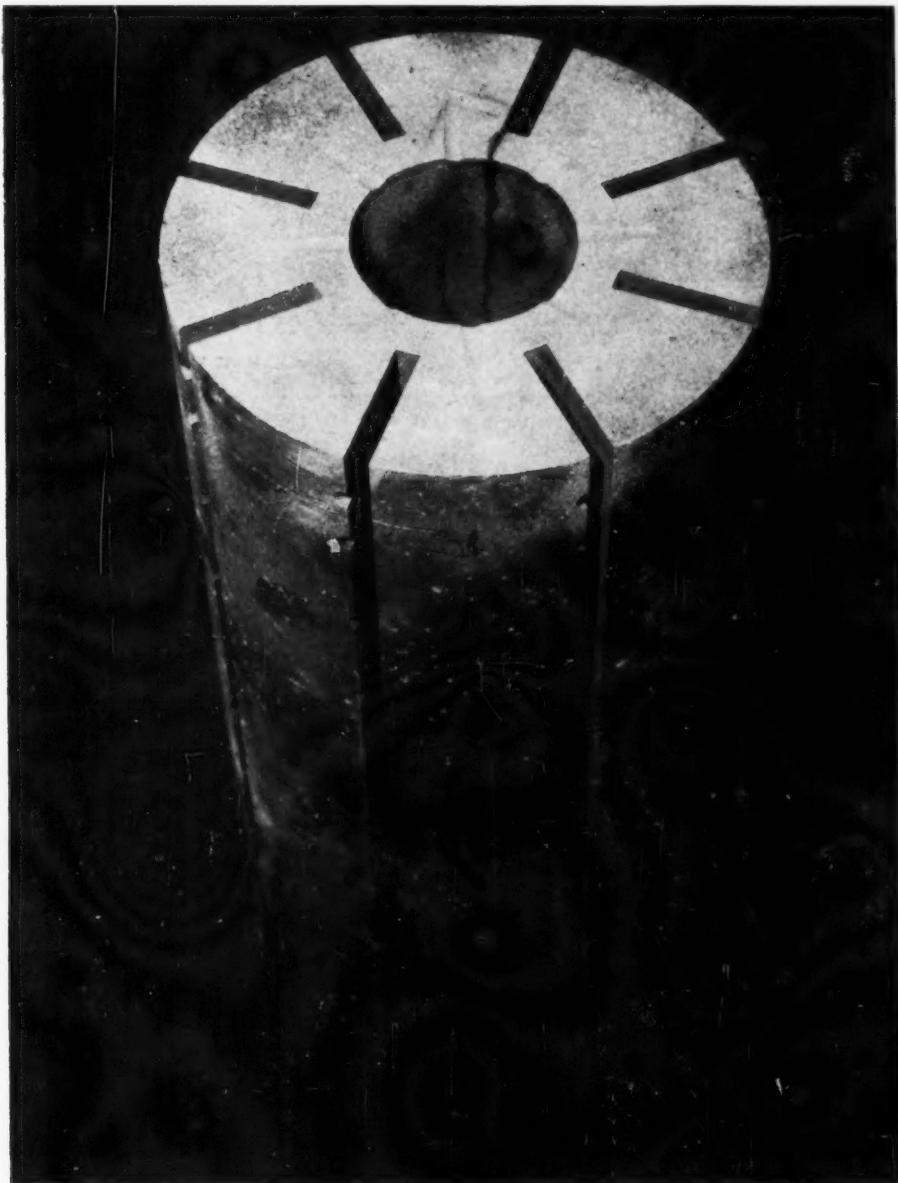
blades are again treated and a special, smooth self-lubricating surface is applied. This results in the reduction of friction to the absolute minimum and eliminates erosion of vane slots.

Davey engineers advise that many Perma-Vane blades, now in use, have operated as long as 15,000

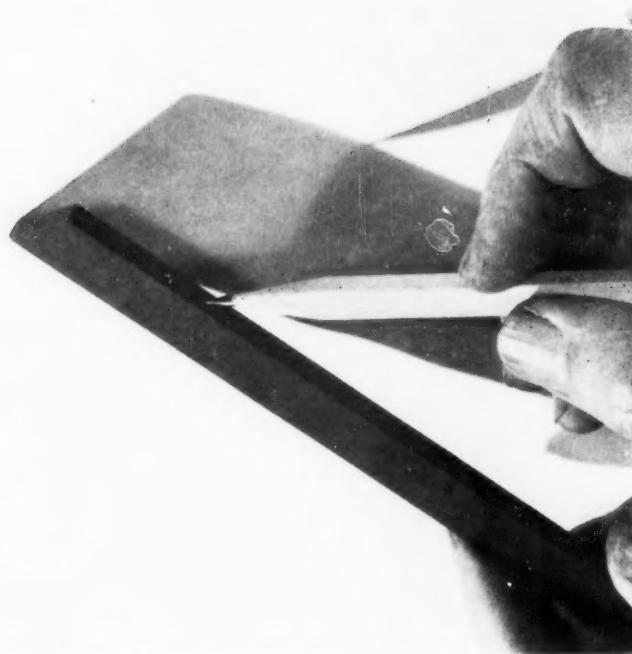
hours without servicing. Inspection has shown no appreciable wear and the original blades have been returned to their rotor grooves and are still operating.

On the basis of these reports, and numerous continuous running tests of 1,000 hours or more in the Davey plant, it seems logical to

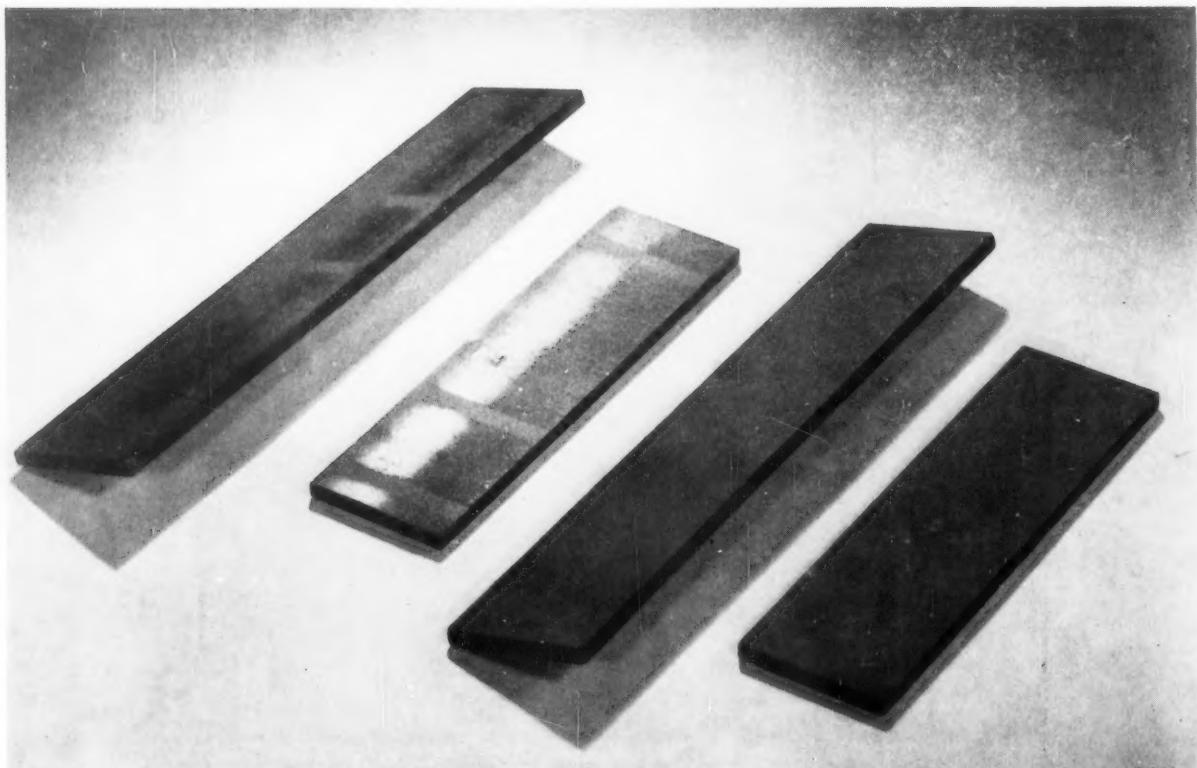
hope that expense incident to major mechanical failures may be avoided. Also, cost of blade replacement and servicing may be materially reduced. Such reduction is, of course, of paramount importance in the mining industry where profits are so largely dependent upon efficient equipment operation.



**motor of 600 c. f. m. unit fractured and destroyed by deposit of small fragments from delaminating blade. This happened in 264th hour of operation.**



Perma-Vane blade, after 16,832 hours, show no deterioration, delamination, warping or curving.



These 4 Perma-Vane blades have operated an average of over 12,000 hours without substantial wear.



New Highway equipment headquarters at 5245 Peach Street, Erie, Pa.

## Highway Opens Erie Branch

• One of the nation's leading distributors of coal stripping equipment, Highway Equipment Company, this month opened a new combination showroom, parts and service headquarters at 5245 Peach Street, Erie. This was less than 2

years after the 26-year old Pittsburgh firm had established a similar branch in DuBois.

The Erie operation is comprised of a 10,000 sq. ft. building located on 3 1/2 acres on Rt. 19, the main north-south artery into the city.

The building contains a modern showroom plus adequate space for complete parts inventory. Service facilities likewise are set up to expedite the repair and reconditioning of all types of equipment.

Co-managers for the new venture are J. Thomas Benbow and P. Paul Mongait, who will also direct sales in the 5 neighboring northwestern Pennsylvania counties. Both are enthusiastic about possibilities for fast expansion and consider Erie as the logical location for servicing the area. Proof of this confidence is shown by the fact that Highway has already negotiated an option on a similar building adjacent to the present site.

A graduate of Guilford College, Benbow is a veteran Highway salesman in the Erie territory. Besides sharing Erie county with Mongait, he will be in charge of sales in Crawford and Mercer counties.



Co-managers are P. Paul Mongait (left) and J. Thomas Benbow.

# Allis-Chalmers HD-21s from

R. D. Baughman Coal Co., Brookville.



C & K Coal Co., West Freedom.



Marion Center Mining Co., Marion Center.



A. P. Weaver & Sons, Fryburg.



*Highway*  
boost production...  
cut costs at leading mines



Harold A. Siegel Coal Co., Fryburg.



*Highway*

## HIGHWAY EQUIPMENT COMPANY

6465 Hamilton Ave. • Pittsburgh 6, Pa.

40 Hoover Ave. • Du Bois, Pa.

5245 Peach St. • Erie, Pa.

Allis-Chalmers • Master • Lima • Thor • Heltzel • Gar Wood

Jaeger • Buffalo-Springfield • Ottawa

Rogers Trailers • M-R-S • Lippmann Crushers

A-1029A

Asco Mining Co., Knox.



Mongait's equipment experience spans over 2 decades. Starting in 1937, it includes service and sales for machinery distributors as well as U. S. Steel. It has been said that he can do any repair job with the possible exception of welding. He will head sales in the counties of Venango and Warren in addition to part of Erie.

Service manager is Charles A. Smith, who started with Highway in 1946. With a rich background of service work that goes back to 1936, he has set up the shop at Erie to provide full facilities for repairing all types of major equipment.

The youngest member of the organization, Eugene B. Orcutt, is parts manager. Despite his youthful appearance, Orcutt applies wide experience in parts and service to

his new job.

Equipment lines to be handled at Erie include Allis-Chalmers tractors, tractor-shovels, scrapers, graders and Tracto-Loaders; Jaeger air compressors, pumps, concrete and plaster mixers; Gar Wood ditchers; Lima shovels, cranes, draglines and Roadpackers; Thor air tools; Master concrete vibrators and finishing equipment; Buffalo-Springfield rollers, and others. In addition, a complete line of general supply items ranging from torches to wheelbarrows will be stocked.

The 35,000 sq. ft. main office of Highway Equipment Company is at 6465 Hamilton Avenue, Pittsburgh. In addition to Erie, it maintains a 15,000 sq. ft. display, parts and service plant on a 2-acre plot at 40 Hoover Avenue, DuBois.



Parts manager Eugene B. Orcutt makes out order.



Service manager Charles A. Smith checks over Allis-Chalmers HD-11.



Smith hands parts requisition to Orcutt.



Benbow stands by long line of Highway equipment at Erie.



Mongait looks over Master Turn-A-Trowel in Erie showroom.



**JEFFREY CHAINS  
and SPROCKETS**

**DIAMOND ROLLER CHAINS**

**MAC WHYTE  
WIRE ROPE**

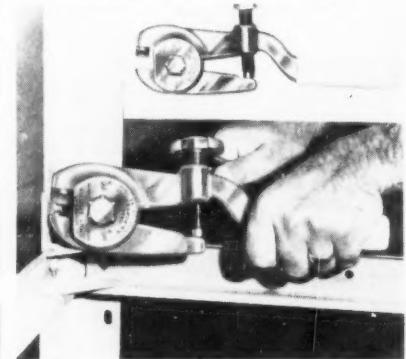
**BRAKE  
LINING**

### **NORTHEASTERN INCORPORATED**

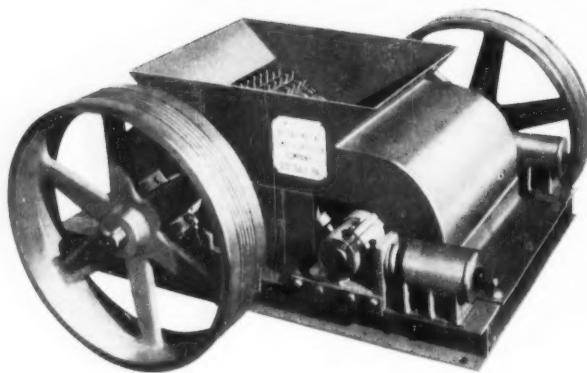
321 Cherry Avenue N. E.  
GL 6-7333 Canton, Ohio

75 Maysville Avenue  
GL 2-3602 Zanesville, Ohio

- Stubborn "frozen" and rusty nuts can now be reached, split, and removed easily and quickly with the new HKP Swivel Jaw Nut Splitter introduced by H. K. Porter, Inc. It is designed to cut nuts up to, and including, 7/8" across flats.



## **SCOTTDALE DOUBLE ROLL CRUSHERS**



**ECONOMICAL - takes less power**

**EFFICIENT - more uniform product**

The powerful forged steel double rolls of the 63 special are covered with hundreds of steel teeth which speedily bite, chew and shred the coal to any wanted size from  $\frac{3}{4}$ " to 8" . . . fines are held to a low minimum.

This 2 motor drive machine has gears but is equipped with 2 easily

maintained grooved flywheels. One welded steel hopper is mounted on a 46" x 65" welded steel base. Weighing only 4800 pounds and powered with 2-10 H. P. motors the crusher has a top speed of 150 RPM's with a capacity of 60 to 250 tons per hour. Comes with bronze bushed journal bearings.

*Send for literature.*

**SCOTTDALE**

**MACHINE, FOUNDRY &  
CONSTRUCTION CO.**

DEPT. CM

BOX 51

SCOTTDALE, PA.

GUYAN MACHINERY CO., Logan, W. Va. stock SCOTTDALE CRUSHERS

To operate, the swivel blade is placed against the side of the nut, the power screw is turned by hand until the jaw is tight against the nut, and then tightened with a hand or power wrench until enough pressure is applied to split the nut. The tool will not damage the bolt from which the nut is removed, and the whole procedure takes only a few second's time.

Made of the finest steel, the HKP  
(Continued on Page 24)

### **HEAVY EXCAVATING EQUIPMENT**

Draglines, Shovels, Cranes,  
Drills, Trucks

15-W Bucyrus Erie Elec. Drag, 215', 12 yd.  
450-W Bucyrus Erie Diesel Drag, 165' with  
extra 10, 12, 13 and 14 yd. buckets.  
9-W Bucyrus Erie Elec. Drag, 165', 10 yd.  
9-W Bucyrus Erie Diesel Drag, 165', 12 yd.  
7-W Bucyrus Erie Diesel Drag, 140', 7 yd.  
7400 Marion Diesel Drag, 175', 13 yd.  
625 Page Diesel Drag, 150', 10 yd.  
621-S Page Diesel Drag, 125', 7 yd.  
200-W Bucyrus-Erie Diesel Drag, 215', 6 yd.  
5-W Bucyrus-Erie Diesel Drag, 100', 6 yd.  
2400 Lima Dragline, 130', 5 yd.  
4500 Manitowoc Drag, 120', 5 yd.  
120-B Bucyrus-Erie Elec. Drag, 115', 5 yd.  
111-M Marion Drag, 100', 4 yd.  
1601 Lima, 4 yd., Shovel/Drill  
3900, 3500 & 3000 Manitowoc Cranes  
5560 Marion 28 yd. Elec. Shovel  
5480 Marion 18 yd. Elec. H. L. Shovel  
151-M Marion 7 yd. Elec. Shovel  
170-B Bucyrus-Erie 6 1/2 yd. Elec. Shovel  
4161 Marion 6 yd. Elec. Shovel  
2400 Lima 4 1/2 and 5 1/2 Yd. H. L. Shovels  
120-B Manitowoc 5 yd. H. L. Shovel  
4500 Marion 18 yd. H. L. Shovel  
1201 Lima 3 1/2 Yd. Standard Shovel  
111-M Marion Standard & H. L. Shovels  
3500 Manitowoc Standard & H. L. Shovels  
54-B Bucyrus-Erie Standard & H. L. Shovels  
Model T-650 REICHdrill, Truck Mounted  
Rotary and Down-The-Hole

Ingersoll-Rand Truck Mounted Drillmaster  
Joy Truck Mounted Rotary Air Drill 6" Holes.  
McCarthy & Compton Coal Auger Drills  
Euclid Trucks, Truck Cranes, Dozers,  
Attachments

### **FRANK SWABB EQUIPMENT CO., INC.**

313 Hazleton Nat'l Bank Bldg.  
Hazleton, Pa. GLadstone 5-3658

**J. T. FISH Says . . . Looking for Bargain Prices?**  
**You Ain't Seen Nothing Yet.**  
**Here Is a BUYER'S PARADISE!**

**WE BUY — SELL — TRADE**

**JOY EQUIPMENT—REBUILT**

- 3—Joy 14BU Loaders, low pedestal, 7AE, '56 & '57.
- 6—Joy 14BU Loaders, medium pedestal, 7RBE.
- 4—Joy 14-BU 3PE Loaders.
- 6—12BU10E Joy Loaders complete with Piggy Backs.
- 2—Joy 12BU Loaders, 9E, latest type.
- 1—Joy 20BU Loader, latest type.
- 2—Joy 11BU Loaders, latest type.
- 1—Joy 8BU Loader, 34" overall height.
- 2—Joy 8BU Loaders, 220 volt AC.
- 1—Joy curved Bar Head, complete.
- 6—Reliance 24-J Motors, 7½ H.P.
- 10—Reliance 38-J Motors, 10 H.P.
- 20—9-J Motors, 4 H.P.
- 2—Goodman 660 Loaders on Crawlers 440 volt DC, like new.
- 1—Goodman 660 Loader on Crawlers, excellent 250 V. DC.
- 1—Goodman 665 Loader on Crawlers, latest type 250 V. DC.
- 1—Goodman 865 Loader 26" hi. Rebuilt. 250 V. DC.
- 4—Joy 8SC Shuttle Cars, Rebuilt.
- 4—Joy 6SC Shuttle Cars, rebuilt.
- 3—Joy 6SC Shuttle Cars, latest type.
- 1—Joy 5SC Shuttle Car, Excellent
- 2—Joy 32E9 Shuttle Cars.
- 2—Joy 32E10 Shuttle Cars, rebuilt.
- 2—Joy 32E15 Shuttle Cars, rebuilt.
- 4—Joy 32E16 Shuttle Cars, rebuilt.
- 2—Joy 42E16 Shuttle Cars, rebuilt.
- 1—Joy CD-22 Drill, on rubber like new.
- 6—Joy T-2-5 low pan Crawler Trucks.
- 1—Joy T-2-6 low pan Crawler Truck with reel.
- 2—Joy T-1 Standard Crawler Trucks, 220 AC.
- 1—Joy T-1 Standard Crawler Truck, 250 DC.
- 2—Goodman low pan Crawler Trucks, like new latest type.
- 4—Joy 11-B Cutting Machines, like new, 35 and 50 H.P.
- 1—Joy 7-B Cutting Machine, like new, 250 volt DC.
- 2—Goodman 212 Cutting Machines, 19" high.
- 4—Goodman 312 Cutting Machines, 17" high.
- 3—Goodman 412 Cutting Machines, 19" high.
- 1—Goodman Machine on Crawler, 31" high. All hydraulic.
- 6—Goodman 512 Machines with Bugdusters.
- 6—Goodman 612 cutting machines, 250 and 500 volt.
- 1—Lee Norse low vein Machine Carrier on rubber.
- 1—Jeffrey 70 URH rubber tired Cutter. Universal head, perfect condition.
- 1—Joy 11RU Rubber Tired Cutter with bugdusters, Universal heads, like new. 250 V DC.
- 2—Joy 10RU rubber tired cutters Universal head, 220/440 volt AC, perfect.
- 6—7AU's on track, Universal head.
- 2—Jeffrey 29UC Cutting Machines, Universal head, cuts anywhere in seam, 38" high, on Crawlers, 250 volt DC.
- 1—Jeffrey 29LC on Crawlers, rebuilt.

**LOCOMOTIVES**

- 1—Goodman 6 ton, 91-A, 27" high, armor plate frame.
- 2—Jeffrey 13 ton, type MH-110, 36", 42" and 44" Ga.
- 2—Jeffrey, 10 ton, type MH-110, 42" and 44" Ga.
- 2—Jeffrey, 10 ton, type MH-78, 42" & 44" Ga.
- 2—Goodman 8-30 and 10-30 Locomotives, 26" above rail.
- 1—Jeffrey MH-124, 6 ton, 24" overall height.
- 12—Jeffrey, 6 ton, type MH-88, 42", 44" and 48" Ga.
- 4—Jeffrey, 8 ton, type MH-100, 2½" armor plate frames.
- 1—Jeffrey, 6 ton, type 2186, 22" above rail.
- 3—Jeffrey, 4 ton, type MH-96, 42", 44" and 48" Ga.
- 1—G.E. 4 ton, type 825 Locomotive, 22" high.
- 10—G.E., 6 ton, types 801, 803, 821 Locomotives, 42", 44" and 48" Ga.
- 1—G.E. 8 ton, type 822 Locomotive, 44" Ga.
- 3—G.E. 10 ton, type 809 Locomotives, 42", 44" and 48" Ga.
- 2—Goodman, type 33, 6 ton, 44" and 48" Ga.
- 3—Westinghouse, type 902, 4 ton, 42" and 48" Ga.
- 2—Atlas Battery Locomotives, 36" Ga.
- 1—Atlas Trolley Locomotive, 4 ton, 24" high.
- 2—Westinghouse, type 904, 6 ton, 44" and 48" Ga.
- 2—Westinghouse, type 906, 44" and 48" Ga.
- 2—Westinghouse, type 907, 10 ton, 44" and 48" Ga.
- 8—Jeffrey MH-78 Locomotive Units, cheap.
- 4—Jeffrey MH-88 Locomotive Units, real bargains.
- 6—Jeffrey MH-100 Locomotive Units, reasonable.
- 3—Plymouth Diesel Locomotives, 8 and 10 tons, 42" and 44" Ga.

**Locomotive Trucks and Spare Armatures for all the above.**

**TIPLLE EQUIPMENT**

- 1—Complete Five Track Tipple with Washers and Air Tables.
- 5—Complete Tipplers, 3 to 5 track, steel and wood.
- 3—Cleaning Plants, 1 Ea. McNally, Roberts and Schaefer, Jeffrey, Washers and Airflow Tables.
- 4—Complete Aerial Trams for coal or refuse.
- 3—complete Rope and Button Lines.
- 2—Monitor Lines complete with Drums, excellent.
- 3—Allis-Chalmers 5' x 12' Low-Head Vibrators.
- 2—Allis-Chalmers 5' x 12' Rippflo Vibrators.
- 1—Allis-Chalmers 4' x 12' Low-Head Vibrator
- 1—Robins Gyrex Vibrator 4x10.
- 10—Belt and Apron type Loading Booms.
- 6—Shaker Screens.
- 1—Robins Car Shakeout.
- 20—Crushers, various sizes. Gundlach, Jeffrey, McClanahan, McNally.
- 4—Mine Scales, 10 & 20 tons.
- 5—Truck Scales, 25 to 40 tons, late type.
- Feeders, Belts and Drag Conveyors, Car Retarders, etc.

**CUTTING MACHINES**

- 2—Joy 10RU rubber tired cutters, Universal head, 220/440 volt A.C. Perfect.
- 1—Joy 11RU, rubber tired Cutter, 250 V. DC.
- 1—Jeffrey 70 URH Cutter, rubber tired, Universal Head, low vein.
- 2—Jeffrey 29UC Universal Machines on Crawlers.
- 1—Goodman on Crawlers, 31" overall height.
- 3—Baby Goodman 212's, rebuilt, 250 Volt DC.
- 2—Goodman 212 Cutting Machines, 19" high.
- 4—Goodman 312 Cutting Machines, 17" high.
- 3—Goodman 412 Cutting Machines, 19" high.
- 6—Goodman 512's with Bugdusters, like new.
- 4—Goodman 512's, rebuilt, or as removed from service.
- 3—Goodman 112's 220/440 volt AC.
- 1—Joy 7-B Cutting Machine, 250 volt DC.
- 4—Joy 11B Cutting Machines, rebuilt.
- 35 and 50 H. P.
- 6—7 AU's on track, Universal head.
- 10—Goodman 12AA's and 112AA's, 250 volt DC.
- 2—Goodman 324 Slabbers.
- 2—Goodman 724 Slabbers.
- 2—Goodman, 824 Slabbers.
- 6—Jeffrey 35L's, like new, 17" high.
- 2—Jeffrey 35L's on low vein trucks.
- 15—Jeffrey 35B's and 35BB's.
- 2—Jeffrey 29B's on track.
- 2—Jeffrey 29C's, track mounted.
- 2—Jeffrey 29L's on Crawlers. Excellent.
- 3—Sullivan CET, 220 volt AC.

**CONVEYORS**

- 2—Robbins 36" tandem drives with or without structure.
- 2—Joy 30" Underground Belt Conveyors, 500' to 2000' each. Excellent.
- 1—Goodman 97-C, 30" Conveyor, 1500' long.
- 2—Goodman 97-C, 26" Conveyors, 1,000' long.
- 3—Robbins 30" Belt Conveyors, 200' to 2000'.
- 4—Jeffrey 52-B, 30" Drive and Tail Assembly, complete.
- 2—Joy MTB 30" Drive and Tail Assembly, complete.
- 3—Goodman 97 HC 30" Drive and Tail Assemblies, complete.
- 4,000' Conveyor Belt, 36".
- 8,000' Conveyor Belt, 30".
- 4,000' Conveyor Belt, 26".
- 8—Jeffrey 61AM 12" Chain Conveyors, 300'.
- 2—61EW Elevating Conveyors.
- 2—61WH 15" Room Conveyors, 300'.
- 2—Joy 15" Room Conveyors, 300'.
- 2—Joy 20" Conveyors, 300'.
- 4—Joy Ladel UN-17 Shakers.
- 10—Goodman G-12½ and G-15 Shakers.
- 3,000' Goodman 18" Flat Belt Conveyors, tandem drive, any length, perfect.
- 2,500' Goodman 20" Flat Belt Conveyors, tandem drive, any length, perfect.

**CONVERTERS AND DIESEL PLANTS**

- 1—300KW Portable Rectifier, 3 card unit. Excellent.
- 2—500KW G. E. Stationary Rectifiers
- 4—1,000KW Stationary Rectifiers.
- 2—100KW, G. E. TCC-6's, 275 volt, Rotary Converters
- 1—150KW, G. E. HCC-6, 275 v., Rotary Conv.
- 1—150KW, G. E. 6 phase, Allis Chalmers Rotary Converter, 275 V. DC.
- 2—200 KW, G. E. HCC-6's Rotary Converters, 275 V. DC. Newly rewound.
- 3—300KW, G. E. HCC-6's Rotary Converters, 275 V. DC, like new

- 2—300KW Westinghouse, 6 phase, Rotary Converters, 275 volt DC.
- 2—500KW Westinghouse Rotary Converters, 275 volt DC.

- 2—200KW Westinghouse Rotary Converters, 275 V. DC. Newly rewound.
- (all the above with 6900/13000 and/or 2300/4000 primary transformers)

- 2—100 KW MG Sets, 275 volt DC.
- 2—150KW MG Sets, General Electric and Westinghouse, 275 V. DC.

- 1—200KW MG Set, Westinghouse, rebuilt, 275 V. DC.

- 1—200KW MG Set, General Electric, perfect.
- 275 volt DC.

- 2—300KW G. E. MG Sets, like new.
- 1—300KW Westinghouse, 600 volt, MG Set, rebuilt.

- 2—300KW Westinghouse, 600 volt, 6 phase, Rotary Converters.
- 2—500KW Westinghouse, 600 volt, DC, 6 phase, Rotary Converters.

- 2—500KW HCC-6's Rotary Converters, 6 phase, 600 volt DC.

- 1—GMC 471 Diesel with 60 KW, 250 volt DC Generator.
- 2—GMC-67 Diesels with 75 KW, 250 volt DC Generators.

- 1—Cummins 125 KW, Diesel with 250 volt DC Generator.
- 1—Allis Chalmers Natural Gas Engine with 100 KW Generator, 275 volt DC.

- Boilers, like new, 500 H.P.

**LOADING MACHINES**

- 3—Joy 12BU9E Loaders, latest type.
- 6—Joy 12BU with Piggyback Conveyors.

- 16—Joy Loaders, 14BU, 12BU, 8BU, 11BU, 20BU.
- 2—Goodman 865 Loaders, 26" on Crawlers.

- 1—Goodman 660 Loader, on Crawlers.
- 1—Goodman 660 Loader, rebuilt, on track.

- 2—Jeffrey 61 CLR's, on rubber, 26".
- 3—Jeffrey L-500 Loaders.

- 2—Myers Whaley, No. 3 Automatic Loaders
- 2—Clarkson Loaders, 26" above rail.

**MISCELLANEOUS**

- 1—Complete Five Track Tipple with Washers and Air-Tables.
- 5—Complete Tipplers, 3 to 5 Track. Wood and Steel.

- Steel Trestles for drop bottom cars.

- All Steel Armco Buildings.

- 20—Jeffrey Molybdenum on rubber tires.

- 1—¾ Yard Shovel and Back-Hoe.

- 1—¾ Yard Crawler Crane.

- Battery Supply Tractors, rubber tired.

- 1—Cantrell Air Compressor on rubber tires.

- 10—Air Compressors, 1 H.P. to 40 H.P.

- 2—Joy self propelled rubber tired compressors, 240 cu. ft.

- 2—Acme self propelled rubber tired compressors, 130 cu. ft.

- 40 Mine Pumps, all types.

- 1—Differential 40 Passenger Man Trip Car.

- 6—MSA Rock Dusters.

- 2—Phillips, Carriers, 44" and 48" Ga.

- 1—Barber Greene self propelled Bucket Elevator.

- Pipe, Plastic, Steel, Transit, all sizes 1" to 6".

- 300 Mine Cars, drop bottom, 42" Ga.

- 50 Mine Cars, drop bottom, 48" Ga.

- 100 Mine Cars, 18" high, end dump, 44" Ga.

- 300 Mine Cars, end dump and drop bottom, 20" high, 48" Ga.

- 1—10 ton Mine Car Scale with Recorder.

- 15—Brown Fayro HKL and HG Car Spotters.

- 1—Brown Fayro Hydraulic Car Spotter.

- 1—12 ton Differential Slatte Larry.

- Incline Hoists, 25 to 50 H.P.

- 1—Jeffrey 5' Aerodyne Fan, like new.

- 1—Jeffrey 6' Aerodyne Fan.

- 1—Jeffrey 8' Aerodyne Fan.

- 2—Storage Tanks, 4,000 Gallons.

- 2—Storage Tanks, 10,000 Gallons.

- 10,000 Five Gallon G. I. Cans, screw lids.

- 2,500 Tons Relaying Rail, 25 lb., 30lb., 40lb., 50lb., 60lb., 70lb.

- 30-ton Copper—4/0 and 9 Section Trolley 1/0, 2/0, 4/0 Stranded.

- Thousands of feet of rubber covered three conductor cable, All sizes.

- 300 Transformers from 1 to 300 KVA, 110 to 13,000 primary volts.

- 400 Electric Motors, 3 to 250 H.P.

- Huge stock of Mine Supplies.

- 600 MSA Mine Lamps, Chargers, etc.

- 4—Mine Scales, 10 & 20 ton.

- 5—Truck Scales, 25 to 40 ton, late type.

- Tandem Dump Trucks.

- Thousands of other items.



## Harmon Creek Coal speeds stripping with

**DAVEY**

### Rotary Drills



Like other leading mine operators, Harmon Creek Coal Corporation, Burgettstown, Pa., speeds drilling and cuts costs with Davey Rotary Drills.

Daveys can be mounted on any make of truck . . . move fast between blast holes . . . are easy to set in position . . . ideal for low cost drilling. Offered in 8 truck-mounted models with capacities to 3,500 ft. Tractor-mounted drills also available.

A-238A

*Write for Bulletin E-702S!*

**DAVEY**

*pioneers of "air-cooled air"*

**DAVEY COMPRESSOR CO.**  
Kent, Ohio

**Portable Compressors**

**Auto-Air Compressors**

**Tank-Mounted Compressors**

**Air Tools**

**Stationary Compressors**

**Rotary Drills**

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Swivel Jaw Nut Splitter has many outstanding features. The swivel blade, which is made of tempered tool steel, can be turned with the fingertips to cut at any angle, in any position, even in tight quarters. The jaw, handle, jaw pivot bolt, and power screw are all made of heat-treated alloy steel, with the jaws and handle being drop-forged as well, to give them exceptional strength. The tip of the power screw is hardened and tempered to prevent "mushrooming" under the pressure needed to split the nuts. The hand grips are of plastic, for comfort and no slipping.

This new Porter tool is designed to save time and money and to give years of trouble-free service. Priced within the range of every mechanic and serviceman, it may be obtained at leading hardware stores, industrial supply houses, automotive jobbers, or wherever quality tools are sold.

For further information, write to H. K. Porter, Inc., 74 Foley Street, Somerville 43, Massachusetts.

## P. R. PAULICK

Consulting Mining Engineer

Specializing: —

Cost Control ----- Management  
Modern Mine Mechanization Systems  
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2505 Windgate Road  
Bethel Park, Pa.

# BARGAINS IN GOOD USED EQUIPMENT

## BECKWITH - Your Headquarters for



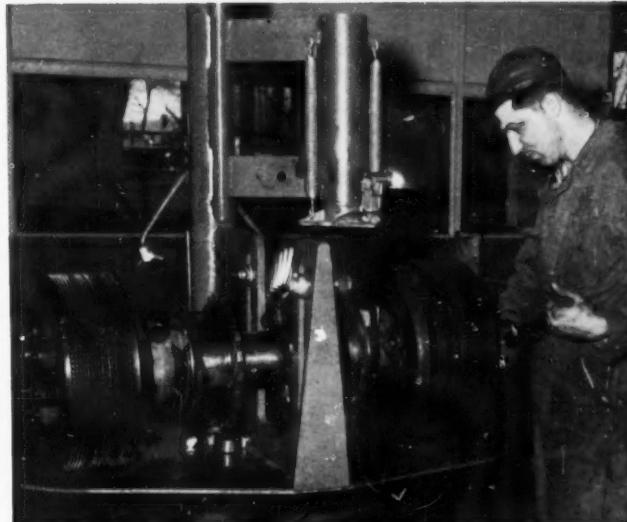
Make Beckwith Machinery Company your source of profit-making machinery in any of the three Caterpillar-standardized classes of good used equipment. If you need productive machines . . . at prices you can afford . . . check with us under any of these three classifications.

For 52 years Beckwith has provided its customers with the services of only the best trained personnel, correct tools and adequate facilities. Integrity and service have been prerequisites in our dealings at all our locations . . . your assurance of honest, work-rated new or used equipment.

To those who have not done business with us previously, we offer not only our reputation in the field, but also the Caterpillar-originated program of "Bonded Buy." This sign identifies the safest buys in used equipment—safest because you get a guarantee bond up to \$10,000, assuring you of satisfactory performance of all parts when you make a "Bonded Buy" on any used Cat-built machine.

We also offer a "Certified Buy" with our written guarantee covering units of any make manufacture or a "Buy and Try" deal, which carries a written money-back agreement.

Why gamble on used equipment when you know you can get exactly what you want—exactly as it's described? Call or stop in at your nearest Beckwith Location for the latest information on our wide selection of honestly-valued used machinery.



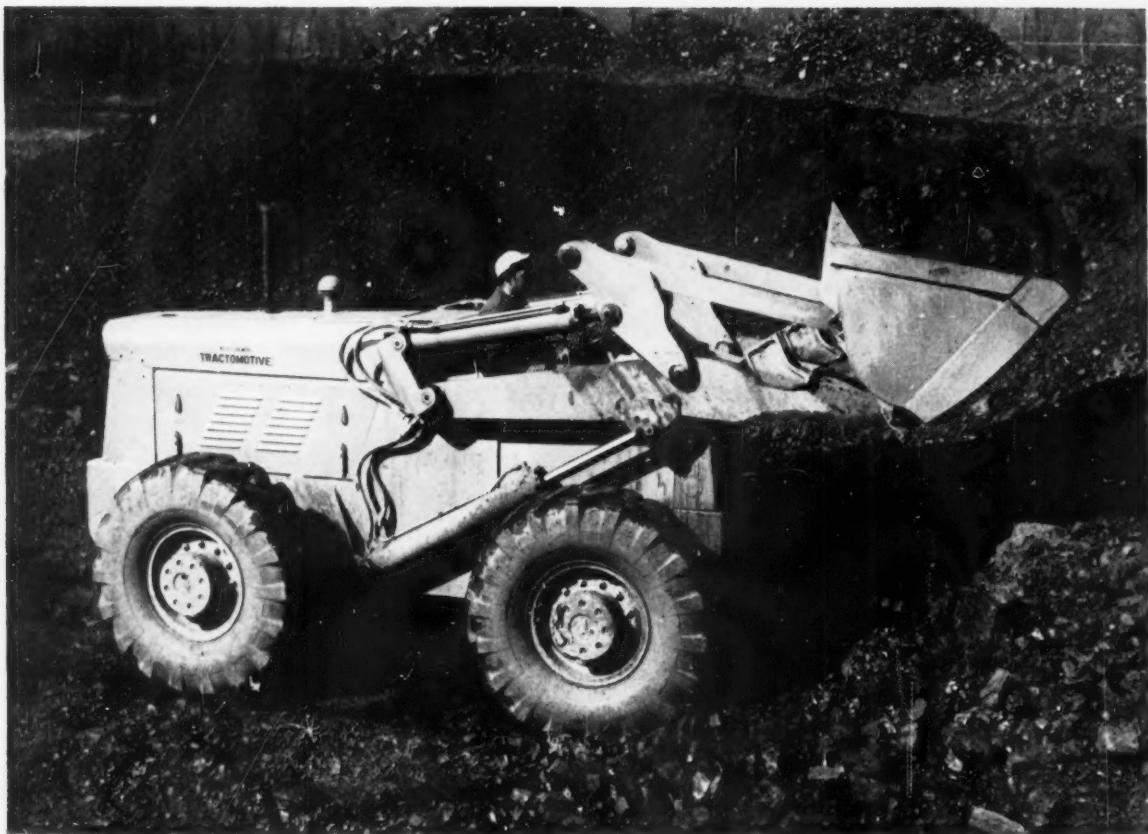
Our used equipment is thoroughly inspected and, as necessary, properly reconditioned or repaired in our modern shops. Caterpillar-trained technicians, equipped with time-saving tools, jigs and fixtures work on these units to put them in good operating condition . . . to keep costs down . . . selling price low.

\*Both CATERPILLAR and CAT are registered trade marks of The Caterpillar Tractor Co.

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This TL-20D TRACTOLOADER loads coal and handles countless other useful jobs at Tri-County Fuel Co., Boyers.

No modern mine is fully equipped without an

## Allis-Chalmers TRACTOLOADER

Ask your Highway representative today about these and other exclusive TRACTOLOADER features:

SINGLE LEVER speed and direction control . . . longer reach . . . strong, pin-connected planetary axles . . . extra stability . . . safe dump cylinder location . . . extra hydraulic protection . . . hydraulic torque converter drive . . . tip-back bucket . . . "Hi-Traction" differentials . . . power steering . . . 4-wheel power brakes . . . 6-way adjustable seat . . . rear axle disconnect . . . bucket position indicator.



TL-16D TRACTOLOADER is handy "all-around" machine at Kerry Coal Co., Portersville.



At Kerry Coal Co., Portersville, TL-16D speeds coal handling.

**HIGHWAY EQUIPMENT COMPANY**

6465 Hamilton Ave. • Pittsburgh 6, Pa.  
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